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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,125	10/08/2001	David G. Abdallah	FIREP9912142US	4715
7590	07/29/2004		EXAMINER	
John M Vasuta Bridgestone/Firestone Inc 1200 Firestone Parkway Akron, OH 44317-0001			DEL SOLE, JOSEPH S	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/973,125	ABDALLAH, DAVID G.
	Examiner Joseph S. Del Sole	Art Unit 1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 15 April 2004.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 17-24 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 17-24 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/15/02 10/28/02</u>	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of claims 17-24 in the reply filed on 4/15/04 is acknowledged. All non-elected claims have been cancelled.

### *Specification*

2. The disclosure is objected to because of the following informalities: **a)** the title is directed to a material but should be rewritten to refer only to the apparatus; and **b)** the abstract is directed to subject matter other than the solely claimed apparatus and should be rewritten to refer only to the apparatus.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 17 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Turecek (4,563,140).

Turecek teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 2, #20) and a die head (Fig 2, #56) into which the extruder extrudes an elastomeric material; the die head defines a

die throat (Fig 2, #60) and includes a guide insert (Fig 2, #58) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply material, the pattern being such that reinforcement elements in the same set (Figure 4, the opening furthest to the left in each of the top and bottom rows) are spaced apart an intra-set distance and adjacent reinforcement elements in different sets (Figure 4, the opening second from the left in each of the top and bottom rows) are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance; and wherein the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements, wherein the intra-set passages are spaced apart a lateral distance corresponding to the intra-set distance, and wherein inter-set passages are spaced apart a greater lateral distance corresponding to the inter-set distance (Figure 4).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 17-21 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ible (4,300,878) in view of Miyazono et al (5,824,171).

Ible teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 5) and a die head (Fig 2, #40) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2, #54) and includes a guide insert (Fig 5, #4) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #7 of Ible to guide a single element does not preclude the openings #7 to be used to guide a set of elements as claimed in claim 18, thus Ible

teaches the structure set forth by claim 18); and wherein the passages are circular in cross-section shape.

Idle fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent reinforcement elements in different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance; the lateral distance between passages being between about .20mm and about .50 mm; the lateral distance between passages being between about 0.30 mm and 0.45 mm; and the distance between the intra-set passages being between about 0.11 mm and about 0.13 mm, and wherein the distance between inter-set passages is between about 0.13 and about 0.23 mm.

Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm (col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Idle with the

materials extruded as taught by Miyazono and to modify the guide inserts of Idle having passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced.

8. Claims 17-21 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiemer (4,274,821) in view of Miyazono et al (5,824,171).

Kiemer teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 4, #10) and a die head (Fig 2, #12) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2) and includes a guide insert (Fig 2, #25) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #26 of Kiemer to guide a single element does not preclude the openings #26 to be used to guide a set

of elements as claimed in claim 18, thus Kiemer teaches the structure set forth by claim 18); and wherein the passages are circular in cross-section shape.

Kiemer fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent reinforcement elements in different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance; the lateral distance between passages being between about .20mm and about .50 mm; the lateral distance between passages being between about 0.30 mm and 0.45 mm; and the distance between the intra-set passages being between about 0.11 mm and about 0.13 mm, and wherein the distance between inter-set passages is between about 0.13 and about 0.23 mm.

Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm (col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Kiemer with the

materials extruded as taught by Miyazono and to modify the guide inserts of Kiemer having passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ible (4,300,878) and Miyazono et al (5,824,171) in view of Ferrentino et al (4,132,756).

Ible and Miyazono et al teach the apparatus as discussed above.

Ible fails to teach the passages being rectangular in cross-section shape.

Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Ible with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

10. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiemer (4,274,821) and Miyazono et al (5,824,171) in view of Ferrentino et al (4,132,756).

Kiemer and Miyazono et al teach the apparatus as discussed above.

Kiemer fails to teach the passages being rectangular in cross-section shape.

Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Kiemer with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (571) 272-1151. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

*Joseph S. Del Sole*  
J.S.D.  
July 23, 2004